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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,766	07/14/2001	Sheri L. Zimmel	010407	3573

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EXAMINER

TRAN, NGHI V

ART UNIT

PAPER NUMBER

2151

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/905,766

Applicant(s)

ZIMMEL ET AL.

Examiner

Nghi V Tran

Art Unit

2151

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 1,3,4,7,9,10,13,15 and 16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/14/01, 6/9/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 07/14/2001 (WO 98/31969) fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Examiner suggests "Apparatus and method for finding the optimal path on existing network or overlay network."

Claim Objections

4. Claims 1, 3-4, 7, 9-10, 13, and 15-16 are objected to because of the following informalities:

The phrase "such that" appears to have inappropriate. Examiner suggests changing to --wherein--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-4, 7-10, and 13-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Siu et al., U.S. Patent Number 6,744,769 (hereinafter Siu).

Taking claim 1 as an exemplary claim, Siu discloses a method of placing a number of unrouted new demands on an existing network structure comprising the step of:

- translating the existing network to a capacity network such that it is conducive to application of mathematical and heuristics techniques, said capacity network being organized as a connected flat topology (column 6, lines 36-49; column 8, lines 17-52; and figures 3);
- solving subsets of the unrouted new demands using min-cost flow processes in order to route as many of the new demands onto the existing network as can be accommodated by the existing network (column 3, lines 35-53; abstract; and figure 5); and

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- outputting a list of routed demands and unrouted demands (column 7, lines 60-67; column 10, lines 31-34; column 11-2, table2; column 3, line 62 to column 4, line 4; and item 32 of figure 5).

With respect to claim 2, Siu further discloses the step of translating the existing network to capacity network comprises modeling system equipment interaction or transition with transition nodes that mark the behavior of equipment within the existing network, thereby rendering a representation of the existing network in an operations research network flow domain (column 5, lines 25-43; column 2, lines 41-54; column 2, lines 15-24; and figures 5-6a).

With respect to claim 3, Sui further discloses the step of solving subsets of the unrouted demands uses only spare capacity of existing network for routing of new demands such that routing of all pre-existing routed demands is maintained (see table 2; figures 3 and 5; and column 13, lines 5-22).

With respect to claim 4, Sui further discloses the step of solving subsets of the unrouted new demands uses all capacity of the existing network for routing of new demands such that pre-existing routed demands are not accommodated by a final solution (see table 2; figures 3 and 5; and column 13, line 16-22).

Claims 7-10 and 13-16 are also rejected on the same reasons set forth in claims 1-4.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 11, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siu as applied to claims 1-4, 7-10, and 13-16 above, and further in view of Ricciulli, U.S. Patent Number 6,275,470.

Taking claim 5 as an exemplary claim, Siu fails to teach an overlay network. In a communication network, Ricciulli teaches the method further comprising the step of:

- building an overlay network in response to having unroutable demands on said existing network (abstract; column 3, lines 34-55; and figure 5);
- routing said unroutable demands on said overlay network (column 4, lines 39-54); and
- outputting a description of said overlay network (column 9, lines 16-61; column 11, lines 10-33; and figure 5).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Siu in view Ricciulliof by building an overlay network. The motivation for doing so would have been obvious because building an overlay network reduces end-to-end delay when the default path reaches the bandwidth's threshold.

Claims 11 and 17 are also rejected for the same reasons set forth in claim 5.

8. Claims 6, 12, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siu as applied to claims 1-4, 7-10, and 13-16 above, and further in view of Klincewicz et al., U.S. Patent Number 6,697,334 (hereinafter Klincewicz).

Taking claim 6 as an exemplary claim, Siu fails to teach the step of re-routing any existing demands. In communication network, Klinecicz teaches traffic is rerouted according to shortest paths with respect to the link lengths (see abstract; column 1 lines 30-45; column 3, lines 6-21; and step 445 of figure 4). It would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Siu in view of Klinecicz by adding the step of re-routing any existing demands. The motivation for doing so would have been obvious because the step of re-routing reduces the traffic congestion or increase the availability when the route is unavailable.

Claims 12 and 18 are also rejected for the same reasons set forth in claim 6.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. "Optimized fault notification in an overlay mesh network via network knowledge correlation," by Lindhorst-Ko, U.S. Patent Number 6,725,401.

b. "Optimal placement of wavelength converters in trees and trees of rings," by Wan et al., U.S. Patent Number 6,772,102.

c. "Efficient precomputation of quality-of-service routes," by Rexford et al., U.S. Patent Number 6,633,544.

d. "Distribution of potential neighbor information through an ad hoc network," by Elliott, U.S. Patent Number 6,456,599.

e. "Mechanism to guarantee quality of service to real-time traffic on IP networks," by Akhtar, U.S. Patent Number 6,418,139.


f. "Method and system for improving the processing time of the path selection in a high speed packet switching network," by Bertin et al., U.S. Patent Number 5,600,638.

g. "System and method for staggering time points for deployment of rings in a fibber optic network simulation plan," by Watkins et al., U.S. Patent Number 6,763,326.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


ZARNI MAUNG
PRIMARY EXAMINER

Nghi V Tran
Examiner
Art Unit 2151

N.T.